IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Applicant(s): M.R. Ebling et al.
Docket No.: YOR920010659US1
Serial No.: 10/091,248
Filing Date: March 5, 2002
Group: 2635
Examiner: Scott D. Au

Title: Method and Apparatus for Providing Dynamic User Alert

APPEAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants (hereinafter referred to as "Appellants") hereby appeal the final rejection of claims 31-63 of the above-identified application.

REAL PARTY IN INTEREST

The present application is assigned to International Business Machines Corporation, as evidenced by an assignment recorded March 5, 2002 in the U.S. Patent and Trademark Office at Reel 12678, Frame 968. The assignee, International Business Machines Corporation, is the real party in interest.

RELATED APPEALS AND INTERFERENCES

Applicants are not aware of any related appeals or interferences.

STATUS OF CLAIMS

Claims 31-63 stand finally rejected under 35 U.S.C. §103(a). Claims 31-63 are appealed.

STATUS OF AMENDMENTS

There has been no amendment filed subsequent to the final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

In a first aspect of the invention, a method of providing a dynamic alert indication to a user of a signal receiving device comprises the steps of: obtaining context information at the signal receiving device; storing at least a portion of the context information at the signal receiving device; forwarding at least a portion of the context information to a context service system located remote from the signal receiving device; and automatically modifying, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device, wherein the alert indication mode causes an alert indication to be provided to the user of the signal receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located; wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device (see currently pending claim 31).

The context service system may cause service provider infrastructure, responsible for sending the signal to the signal receiving device, to be modified consistent with the alert indication mode (see currently pending claim 32). The context service system may make one or more signal transmitting devices aware of the alert indication mode of the signal receiving device (see currently pending claim 33). The context service system may forward at least a portion of the context information obtained from the signal receiving device to one or more signal transmitting devices (see currently pending claim 34). The context service system may forward at least a portion of the context information obtained from the signal receiving device to one or more context service systems (see currently pending claim 35). The context service system may store previously-provided information about the user and about one or more signal receiving devices associated with the user for use in automatically modifying the alert indication mode of at least one of the one or more signal receiving devices (see currently pending claim 36).

In a second aspect of the invention, a signal receiving device comprises: a memory; and a processor coupled to the memory and operative to: (i) obtain context information; (ii) store at least a portion of the context information; (iii) forward at least a portion of the context information to a context service system located remote from the signal receiving device; wherein, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device is automatically modified, wherein the alert indication mode causes an alert indication to be provided to the user of the signal receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located; further wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device (see currently pending claim 47).

In a third aspect of the invention, a context service server comprises: a memory; and a processor coupled to the memory and operative to: (i) obtain context information associated with a signal receiving device; (ii) store at least a portion of the context information; (iii) forward at least a portion of the context information to one or more signal transmitting devices; wherein, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device is automatically modified, wherein the alert indication mode causes an alert indication to be provided to a user of the signal receiving device upon receipt of a signal by the signal receiving device from one of the signal transmitting devices, the alert indication being appropriate to an environment in which the user is presently located; further wherein automated modification of the alert indication mode is effectuated remotely by the context service server or locally by the signal receiving device (see currently pending claim 48).

In a fourth aspect of the invention, a method of providing a dynamic alert indication to a user of a signal receiving device comprises the steps of: obtaining context information from a context service located remote from the signal receiving device; storing at least a portion of the context information at the signal receiving device; and automatically modifying, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device, wherein the alert indication mode causes an alert indication to be provided to the user of the signal

receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located; wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device (see currently pending claim 49).

By way of example, FIG. 1B illustrates a system in which the above methods and apparatus can operate. Furthermore, as illustratively explained in the present specification at page 13, line 13, through page 16, line 7, the user's current state or context is maintained by an awareness or context service and could also influence message transcoding performed in step 308 of FIG. 3B. If the user is in a public setting, the system is capable of choosing to transcode a message in one way whereas if the user is in a private setting, the system chooses to transcode the message in a different way. For example, the system chooses not to display a message marked confidential in a public area and instead chooses to transcode the message to audio for playback over a cellular phone. If no other means of notification is possible, the system simply tells the recipient that a confidential message has arrived (providing an indication of the sender) and give the user the option of displaying the message or not. Similarly, if the user is currently in a meeting, the system chooses different ring tones to indicate who the caller is or the importance of the arriving message to the recipient so that the user can better decide whether or not to take the phone call.

One having ordinary skill in the art will recognize that many different forms of context could be used to make such determinations. These different forms include, but are not limited to, location and calendar (e.g., an appointment to attend a movie or an opera as listed on an electronic calendar such as, for example, Lotus Notes or Microsoft Outlook) context.

The type of alert may be determined at other locations in the architecture or the device itself could monitor its own context. For example, the device monitors the ambient noise level and adjust its behavior based upon a model of the environment. If the environment were particularly quiet, the device uses a non-audible alert mode. If the environment were not particularly quiet, the device uses a ringing alert mode. If the environment were particularly noisy (such that the user might not hear the phone), the device switches back to a non-audible alert mode or use a dual alert (e.g., ringing and vibrating the phone simultaneously). Further, the sender of the message or the caller supplies a hint,

or a requested mode of alert. For example, the sender or caller might request that their incoming message or phone call be alerted to the recipient with a ring tone or even with a particular ring tone. It is further contemplated that the notification server 120 might request assistance from the sender of the message to determine the requested alert type 203. For example, the notification server 120 might disclose the recipient's current context to the sender of the message (if allowed by any privacy policies that might be in place) and ask the sender to choose the best alert type 203.

It is contemplated that the device receives assistance from its environment. For example, a bluetooth-enabled device might receive a communication at the door to "sensitive" environments (also referred to as a context service environment) informing the device that it has entered an environment in which no audible modes of alert may be used or in which no modes of alert may be used. In such a situation, the cellular phone (or other device such as, for example, a personal digital assistant or a two-way pager) adjusts its behavior accordingly. It is further contemplated that for usability or other reasons, the device is configured to alert its user to the change in environment and the implications on future alerts in that particular vicinity. Additionally, the device forwards this information on to its awareness or context service or other infrastructure and does not act on the information directly. Alternatively, the device could act on the information itself and also forward the information to an awareness or context service or other component of the infrastructure. The environment might identify the type of environment it is, from a standardized list of environment types. From this information, the user could specify the preferred behavior for the specified type of environment and/or the service providers and device manufacturers could implement the required behavior for that environment.

It is contemplated that the service provider's infrastructure is modified to support such a system. For example, infrastructure installed in sensitive environments might refuse to transmit calls or messages with audible alerts or it might modify the mode of alert to a non-audible one.

Some particularly sensitive environments include those within hospitals, airplanes and blasting zones (such as appear in a highway construction site). In such environments, the use of cellular phone and other computer and communication devices might be banned. The present invention prevents the use of these devices within the sensitive environment. More specifically,

transmitters within the sensitive environment may transmit a reconfiguration signal to these devices which precludes the device from transmitting further signals. Upon leaving the sensitive environment, the transmitter can send a second reconfiguration signal that returns the device back to its normal operating mode. While in the sensitive environment, the service provider could, possibly with the assistance of the transmitter, inform callers that the user is temporarily unavailable or a similar such message.

It is also contemplated that a transmitter within a sensitive environment could send a reconfiguration signal that precludes the device from operating its radio at all (even in a listen-only mode) and that causes the device to turn its radio off. In this case, a second reconfiguration signal would be ineffective and the user will need to remember to turn the radio back on upon leaving the sensitive environment. Alternatively, the device could set an alarm and query the user to determine if the user has left the sensitive environment. If the user responds in the affirmative, the device could re-enable its radio; if not, the device could reset the alarm and re-query at a later time. Also, the transmitter's reconfiguration signal could suggest a time for that alarm to go off. It is further contemplated that the reconfiguration signal might indicate that the device should turn itself off. In this case, the user will be required to turn the device back on upon leaving the sensitive environment.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 31-63 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,815,081 issued to Motohashi (hereinafter "Motohashii") in view of U.S. Patent No. 5,646,589 issued to Murray et al. (hereinafter "Murray").

ARGUMENT

Appellants incorporate by reference herein the disclosure of their previous response filed in the present application, namely, the response dated March 13, 2006.

Appellants now address the ground of rejection to be reviewed on appeal, i.e., whether claims 31-63 are unpatentable under 35 U.S.C. §103(a) over Motohashi in view of Murray.

Regarding the §103(a) rejections, Appellants assert that the Motohashi and Murray references, alone or in combination, fail to teach or suggest all of the limitations of the claims 31-63, as will be explained below. Furthermore, with regard to the combination of Motohashi and Murray, Appellants assert that such combination is improper, as will be explained below.

First, the final Office Action asserts that Motohashi (as part of the Motohashi/Murray combination) discloses various limitations of independent claims 31 and 47-49. However, as will be explained, Motohashi does not disclose such limitations.

Claim 31 recites a method of providing a dynamic alert indication to a user of a signal receiving device, the method comprising the steps of: obtaining context information at the signal receiving device; storing at least a portion of the context information at the signal receiving device; forwarding at least a portion of the context information to a context service system located remote from the signal receiving device; and automatically modifying, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device, wherein the alert indication mode causes an alert indication to be provided to the user of the signal receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located; wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device. Independent claims 47-49 recite similar limitations.

The final Office Action at page 3 contends that column 2, lines 36-44, of Motohashi discloses the step of obtaining context information at the signal receiving device; storing at least a portion of the context information at the signal receiving device. However, such portion of Motohashi merely refers to a radio paging receiver having a function called a call condition indicating function. Motohashi then explains that when a call originates from a subscriber substation to the radip paging receiver, the call is conveyed from a transmitting station 11 to the radio paging receiver by a call signal having a form of a radio signal. However, no where does Motohashi disclose that a user's signal receiving device obtains and stores context information.

Next, the final Office Action asserts that Motohashi at column 3, lines 10-30, discloses that the user's signal receiving device forwards at least a portion of the context information to a context

service system located remote from the signal receiving device. However, Motohashi at column 3, lines 10-30, is describing that the radio paging receiver, not a subscriber substation, maintains call condition indicating tables 31 and 33. No where does Motohashi disclose that a subscriber substation forwards context information to a context service system located remote from the signal receiving device. Further, Motohashi makes no mention of a context service system.

Still further, the final Office Action points to column 3, line 44, through column 4, line 19, in rejecting the claim limitation that recites wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device. However, while Motohashi refers to announcing modes, no where does this portion of Motohashi even mention automated modification of the alert indication mode being effectuated remotely by the context service system or locally by the signal receiving device.

In fact, in most of the above-mentioned portions of the final Office Action, it appears that the final Office Action confuses features provided by the radio paging receiver with features provided by the subscriber substations of Motohashi, particularly when asserting that Motohashi discloses the expressly recited features of the user signal receiving device and the context service system of the claimed invention.

Murray fails to remedy any of these deficiencies.

For at least the above reasons, independent claims 31 and 47-49 are patentable over the Motohashi/Murray combination. Furthermore, Appellants assert that the claims which depend from such independent claims are patentable over the Motohashi/Murray combination not only for the reasons given above with respect to independent claim 1, but also because such dependent claims recite patentable subject matter in their own right, as will be set out below.

By way of example only, since Motohashi and Murray fails to disclose a context service system remote from the user signal receiving device, the combination fails to disclose the various features recited in dependent claims 32-36, 41, 42, 50-53, 58 and 59. The combination also fails to disclose that the alert indication mode is suggested by a sender of the signal (claims 40 and 57) or that the received signal is evaluated to determine its relative importance based on content of the signal (claims 43 and 60).

Still further, the combination of Motohashi and Murray is improper. It is not clear how or why one would combine the two references.

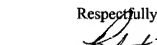
The Federal Circuit has stated that when patentability turns on the question of obviousness, the obviousness determination "must be based on objective evidence of record" and that "this precedent has been reinforced in myriad decisions, and cannot be dispensed with." In re Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, the Federal Circuit has stated that "conclusory statements" by an examiner fail to adequately address the factual question of motivation, which is material to patentability and cannot be resolved "on subjective belief and unknown authority." Id. at 1343-1344.

In the final Office Action at page 4, the Examiner provides the following statement to prove motivation to combine Motohashi and Murray, with emphasis supplied: "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the alert indication being appropriate to an environment in which the user is presently located of Murray et al. in the paging system of Motohashi with the motivation for doing so would allow notifying the user of the incoming message."

Appellants submit that this statement is based on the type of "subjective belief and unknown authority" that the Federal Circuit has indicated provides insufficient support for an obviousness rejection. More specifically, the Examiner fails to identify any objective evidence of record which supports the proposed combination. The final Office Action gives no further guidance on this important point.

In view of the above, Appellants believe that claims 31-63 are in condition for allowance, and respectfully request withdrawal of the §103(a) rejection.

Respectfully submitted,



Date: October 31, 2006

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CLAIMS APPENDIX

31. A method of providing a dynamic alert indication to a user of a signal receiving device, the method comprising the steps of:

obtaining context information at the signal receiving device;

storing at least a portion of the context information at the signal receiving device;

forwarding at least a portion of the context information to a context service system located remote from the signal receiving device; and

automatically modifying, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device, wherein the alert indication mode causes an alert indication to be provided to the user of the signal receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located;

wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device.

32. The method of claim 31, further comprising the step of the context service system causing service provider infrastructure, responsible for sending the signal to the signal receiving device, to be modified consistent with the alert indication mode.

33. The method of claim 31, further comprising the step of the context service system making one or more signal transmitting devices aware of the alert indication mode of the signal receiving device.

34. The method of claim 31, further comprising the step of the context service system forwarding at least a portion of the context information obtained from the signal receiving device to one or more signal transmitting devices.

35. The method of claim 31, further comprising the step of the context service system forwarding at least a portion of the context information obtained from the signal receiving device to one or more context service systems.

36. The method of claim 31, further comprising the step of the context service system storing previously-provided information about the user and about one or more signal receiving devices associated with the user for use in automatically modifying the alert indication mode of at least one of the one or more signal receiving devices.

37. The method of claim 31, wherein the alert indication mode is at least one of audible and non-audible.

38. The method of claim 37, wherein the non-audible mode comprises vibrating the signal receiving device.

39. The method of claim 37, wherein the audible mode comprises one or more ring tones.

40. The method of claim 31, wherein the alert indication mode is suggested by a sender of the signal.

41. The method of claim 31, further comprising the steps of the context service system making available at least a portion of the context information to one or more other users of the context service system, receiving an alert indication mode from one of the one or more other users of the context service system, and forwarding the alert indication mode to the signal receiving device.

42. The method of claim 41, wherein a user of the context service system is a program or an explicit or implicit user.

43. The method of claim 31, further comprising the step of evaluating the signal to determine its relative importance based on content of the signal.

44. The method of claim 31, wherein the signal receiving device comprises one of a cellular telephone, personal digital assistant, and a pager.

45. The method of claim 31, wherein the automated modification step may determine that no mode of alert indication may be utilized by the signal receiving device while within the environment.

46. The method of claim 31, further comprising the step of blocking signals to and from the signal receiving device while within the environment.

47. A signal receiving device, comprising:

a memory; and

a processor coupled to the memory and operative to: (i) obtain context information; (ii) store at least a portion of the context information; (iii) forward at least a portion of the context information to a context service system located remote from the signal receiving device; wherein, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device is automatically modified, wherein the alert indication mode causes an alert indication to be provided to the user of the signal receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located;

further wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device.

48. A context service server, comprising:

a memory; and

a processor coupled to the memory and operative to: (i) obtain context information associated with a signal receiving device; (ii) store at least a portion of the context information; (iii) forward at least a portion of the context information to one or more signal transmitting devices;

wherein, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device is automatically modified, wherein the alert indication mode causes an alert indication to be provided to a user of the signal receiving device upon receipt of a signal by the signal receiving device from one of the signal transmitting devices, the alert indication being appropriate to an environment in which the user is presently located;

further wherein automated modification of the alert indication mode is effectuated remotely by the context service server or locally by the signal receiving device.

49. A method of providing a dynamic alert indication to a user of a signal receiving device, the method comprising the steps of:

obtaining context information from a context service located remote from the signal receiving device;

storing at least a portion of the context information at the signal receiving device; and

automatically modifying, based on at least a portion of the context information, an alert indication mode associated with the signal receiving device, wherein the alert indication mode causes an alert indication to be provided to the user of the signal receiving device upon receipt of a signal by the signal receiving device, the alert indication being appropriate to an environment in which the user is presently located;

wherein automated modification of the alert indication mode is effectuated remotely by the context service system or locally by the signal receiving device.

50. The method of claim 49, further comprising the step of the context service system causing service provider infrastructure, responsible for sending the signal to the signal receiving device, to be modified consistent with the alert indication mode.

51. The method of claim 49, further comprising the step of the context service system forwarding at least a portion of the context information to one or more signal transmitting devices.

52. The method of claim 49, further comprising the step of the context service system forwarding at least a portion of the context information to one or more context service systems.

53. The method of claim 49, further comprising the step of the context service system storing previously-provided information about the user and about one or more signal receiving devices associated with the user for use in automatically modifying the alert indication mode of at least one of the one or more signal receiving devices.

54. The method of claim 49, wherein the alert indication mode is at least one of audible and non-audible.

55. The method of claim 49, wherein the non-audible mode comprises vibrating the signal receiving device.

56. The method of claim 49, wherein the audible mode comprises one or more ring tones.

57. The method of claim 49, wherein the alert indication mode is suggested by a sender of the signal.

58. The method of claim 49, further comprising the steps of the context service system making available at least a portion of the context information to one or more other users of the context service system, receiving an alert indication mode from one of the one or more other users of the context service system, and forwarding the alert indication mode to the signal receiving device.

59. The method of claim 58, wherein a user of the context service system is a program or an explicit or implicit user.

60. The method of claim 49, further comprising the step of evaluating the signal to determine its relative importance based on content of the signal.

61. The method of claim 49, wherein the signal receiving device comprises one of a cellular telephone, personal digital assistant, and a pager.

62. The method of claim 49, wherein the automated modification step may determine that no mode of alert indication may be utilized by the signal receiving device while within the environment.

63. The method of claim 49, further comprising the step of blocking signals to and from the signal receiving device while within the environment.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.